

Psychosocial adjustment to lower-limb amputation: A review article

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Abstract

Introduction: Amputation is the loss of a part of an organ or all parts of an organ which is removed through surgery or is occurred due to trauma. The causes of amputation include trauma, infection, diabetes, vascular disease, cancer and other diseases. The impact of amputation on psychological situation and social and family relationships is undeniable, because physical disability also affects one's social and mental health, in addition to his/her psychological adaptation and compared to the ordinary people, these people are suffering more from social isolation. Therefore, any limb amputation not only is considered as a physical injury but is also followed by psychological- emotional damages.

Methodology: To prepare this paper we searched keywords such as adjustment, Lower-limb amputation and Psychological in the data banks of Scholar.google, Sciencedirect, Pubmed, Google, IranMedex, IranDoc and some Persian articles.

Conclusion: Following the amputation, patient experiences a wide range of conditions such as depression, anxiety, fatigue, long-term changes in recreational activities, economic burdens, medical costs as well as reactions of friends and family members, in addition to a wide range of emotional reactions. This situation, in the absence of adequate support from family and society, could result in non-adaptive responses of the patient. On the other hand, today the new methods of rehabilitation have turned the problem of disability from a personal tragedy to a social problem.

In this attitude, disability is a limitation imposed by the society which prevents these people from participation in social life. Although most researches have not found any relationship between

individual –social characteristics and adaptation with the loss of limb, but studies show that men and the elderly could better adaptationcope with amputation compared to the young people and women, and the level of factors such as depression and anxiety is high for two years after the amputation, but these levels gradually decrease and reach to the norm of the general population. On the other hand, most studies have been conducted as quantitative and cross –sectional researches. In addition, some aspects of adaptationcoping with amputation have been neglected in researches untill now. The researcher believes that the main needs and concerns of these individuals and adaptationthe way they adapt with various problems are very vague and unknown for professional staff.

As qualitative researches can play an effective role in clarifying ambiguous and unknown areas and these types of researches have special effectiveness in answering to the questions containing human mentalities and interpretations and they are considered as the best ways to describe life experiences and relevant essential social processes, it is recommended to conduct qualitative researches in this field.

Key word: Psychosocial, adjustment, amputation.

Introduction

Socio-demographic Factors

Sex

Gender (sex) is also one of the psychological –social factors that can affect the outcome of amputation. In most conducted studies, no differences were found between mental health of men and women after amputation (1-6). But some studies have shown that women experience depression

more than men and they have poor emotional adaptation (7-10). Effect of Gender is not conclusive in the anxiety associated with the body image, although only one study points out that following amputation, women are more prone to the body image concerns than men (11).

Age

One of the potential criteria in adaptation with the amputation is the age. Various studies show that the rate of mental adaptation with amputation among young people is not desirable compared with adults (12-14), but the findings of some studies have shown that there is no statistically significant relationship between depression and age (4, 6, 15). In his study, Desmond did not find any significant relationship between age and depression, but the level of depression is reduced over time (12,16, 17).

Marital status

One of the important criteria in adaptation with amputation is marital status. Various studies show that the level of depression differs significantly in married and unmarried groups (4, 5, 15). This means that marital status is effective on depression and married people are less depressed than single ones. In explaining the impact of marital status on depression, it could also be said that the social relationships are more limited in people suffered from amputation compared with others, so marriage plays an important role in their mental health. In his study, Williams doesn't consider the marital status as one of the factors affecting the level of depression in people suffered from amputation. This finding can be attributed to the type of study (cohort) and population under study (6).

Social support

One of the factors affecting the adaptation with the lower- limb amputation is social support. Khademi showed that people with high social support had lower levels of depression and anxiety (4). According to the study conducted by Engstorm, family support can have a positive impact on adaptation with the amputation (18). Ziad's study showed that unmarried (single) patients and patients who had no social support have high levels of anxiety and depression (10). Various studies showed that symptoms of depression in people

suffered from amputation increase with increased social isolation and decreased social support (3,17,19,20). Social support also had a direct impact on general adaptation with amputation among adolescents and young people. (21).

In a qualitative study, participants stated that one of the effective factors on promotion of successful rehabilitation is family support (22). Many quantitative studies point out that increase of social isolation and receiving less social support is associated with the reduction in quality of life and increased depressive symptoms (3, 19, 20, 23). General mechanism of literature in which social support (that increases mental health) is discussed, is build around two theoretical axes: buffer effect model and the direct effect model. Buffer effect model claims that the social support acts through the relationship between stressful life events and psychological distress and the direct effect model claims that the psychological health works with stress-free process (24).

Coping

Researches especially emphasize on the role of adaptation strategies in order to cope with the situation after amputation. Review of the literature indicates that the active strategies such as problem solving will result in positive psychological adaptation in most of the morbidities (14, 25). For example, Livneh points out that the increased problem-solving activity is negatively associated with depression and internalized anger and positively associated with the adaptation or coping with and acceptance of disability (14). However, the literature related to the adaptation and psychological coping with amputation, is a unique situation and the relatively limited researches have been done with different methodologies. At the first, studies in this field were logically conducted with small samples (14, 26, 27).

But later on, many researches were conducted exclusively on the coping with phantom limb pain (28-31). About the psychological –social adaptation with the amputation, Livneh believes that there are many factors effective on psychological- social adaptation or coping with the disability in chronic diseases (14) and coping strategies or ways used by people to manage experiences together with illness or injury play an important mediating role in

the psychological-social adaptation (coping) with amputation (32) and a person's ability to use these strategies and to enhance them is a key principle to prevent adaptation problems (16)

Amputation makes people to face with severe physical and mental-social challenges such as impaired physical function, use of the prosthesis and its accompanying problems, pain, change in employment and job status and changes in body image and self-confidence. Such stressors make it difficult for individuals to have a sense of emotional well-being and can lead to the reactions of non-adaptation or weak psychological-social adaptation (33, 34). Understanding these experiences and to feel empathic with the patient via understanding these experiences by the medical team can be useful in better care and helping patients to cope with this problem.

Reaction and responses to the amputation

Immediate reaction to the amputation varies and it depends on factors such as whether amputation was already planned or it was necessary following a chronic disease, infection or sudden trauma. Cause of amputation affects the mental condition of patient during the rehabilitation phase. He/she may experience the classic stages of grief when there is the time to think about the imminent loss of limb (35, 36). These stages include: denial stage (he/she often evidently refuses to participate in discussion and to answer fundamental questions about the program), anger stage (he/she may be angry with the medical team and say that he/she has fooled in announcing his/her agreement with the amputation, bargaining (he/she prevents surgery or delays it with thousands of reasons, including "I'm too tired," "I do not want major surgery."), depression (adopting a helpless, passive sense and drowning gesture) (37), and acceptance (he may not reach the rehabilitation process as long as he/she is ill (37). After having learned that amputation may be necessary, anxiety is often replaced with depression. This may be generalized anxiety (e.g., overt anger, decreased ability to sleep, silent rumination and social exclusion) or may lead to sleep disturbances and irritability. Not surprisingly, anxiety may be about the organ or limb which is going to be removed (38).

Phantom limb pain that may be familiar to

many patients (those who have been called amputated individuals) is also expected. There may be hypersensitivity to the other people's negative attitudes to disability. This may be determined by the people suffered from amputation through the rejection of help and being indifferent to the questions concerning the expected performance level (38). Having contact with one of the religious figures can make it easier for them to accept the amputation (for example, a hospital chaplain). Other cases include perception (a positive aspect of life after surgery), self-hypnosis, exercising, pain relief after surgery and sense of more independence which facilitate the adaptation or adaptation with the inability period (39).

Patients who have amputation following an accident and the threat of infection may never spend these steps or they may only experience a very small part of these steps. Also they may not experience fear of anesthesia, surgery and waking during a few hours in a state of semi-consciousness. PTSD and depression screening after surgery and during the primary cares should be fully performed (40).

Conclusion

Returning back to the life after amputation is associated with many problems. These people often faces with psychological –social difficulties such as depression, feelings of hopelessness, low self-esteem, fatigue, anxiety, frustration, guilt, fear of the future status of the family and sometimes suicide due to the lack of adaptation with the new requirements. An individual suffered from amputation usually encounters with economic, social, personal, familial and environmental problems that make life more difficult for him/her. Unemployment incidence after amputation and direct and indirect health and medical costs resulted from amputation is higher in survivors of accidents and war and returning to the work is one of the major challenges of this group.

Many of these people have to change type of their jobs or to reduce their working time after injury. Following amputation, patients experience conditions such as prolonged fatigue, changes in recreational activities, economic burdens, and medical costs and also the reaction of friends and

family in addition to a wide range of emotional reactions which can lead to non-adaptive reactions if they don't receive enough support from family and society. Thus, amputation is one of the major and traumatic incidents in the life of every individual which requires cooperation and assistance of a large number of people such as the surgical team, nursing, rehabilitation and finally family of these people to enable them to adapt with their new conditions (without feet) and have an independent life. Most of the researches conducted on amputation are quantitative studies which show that the level of factors such as depression and anxiety is high during the 2 years after amputation, but it then gradually decreases and reaches to the general population norm. But as the quantitative approach is incapable of measuring some phenomena and consequently by which it is not possible to describe aspects such as human values, culture, human relationships and communication, a new worldview is suggested as a supplement in the field of doing research which is called "The qualitative approach". This new worldview studies human phenomena rooted in the context of social science.

In this regard, Strobert and Carpenter (41) believe that it is not possible to summarize human phenomena in the form of mathematical formulas. Therefore, to achieve deep inner reality of human beings, more appropriate research strategies are required. Qualitative research can have an effective role in clarifying the ambiguous and unknown fields. Qualitative researches have specific effectiveness in answering to the questions that contain interpretations and mentalities of human and they are the best ways to describe life experiences and its major social processes. So, the use of a qualitative research for in-depth and comprehensive review of amputation seems necessary.

Following amputation, the patient experiences long-term conditions such as fatigue, changes in recreational activities, economic burdens, medical costs and reactions of friends and family, in addition to a wide range of emotional reactions which can lead to non-adaptive reactions if they don't receive enough support from the family and society. On the other hand, new methods of rehabilitation have turned the problem of disability from a personal tragedy to a social problem. In this trend, disability

is a limitation from society which prevents the participation of these people in the social life. Although most researches did not find any relationship between individual characteristics and the adaptation with the amputation, but some studies show that old men (males) are adapted with the amputation better than young men and women. On the other hand, most of the studies have been conducted as quantitative and cross-sectional researches.

In addition, some areas of adaptation with the amputation have been so far neglected in the researches. The researcher believes that the major needs and concerns of these individuals and their adaptation with the various problems are very vague and unknown for the professional staff. Since the qualitative researches can play an effective role in clarifying the areas of ambiguity and unknown fields and these type of researches are effective in answering to the questions that contain human interpretations and mentalities and as they are considered as the best way to describe life experiences and its existing social processes, thus doing qualitative researches is recommended.

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